

The invention claimed is:

- 1 1. A method for encoding messages, comprising the steps of:
2 identifying at least a first group of messages having a first plurality of messages and a
3 second group of messages having a second plurality of messages based on a prior transmitted
4 message, where the first and second plurality are unequal; and
5 transmitting a message from one of at least the first and second group of messages.
- 1 2. The method of claim 1, wherein a first number of bits used to represent messages in
2 the first group is different than a second number of bits used to represent messages in the second
3 group, where the first and second number of bits are at least equal to one.
- 1 3. The method of claim 1, wherein a message from the first group has a higher
2 probability of being transmitted than a message from the second group.
- 1 4. The method of claim 3, wherein a first number of bits used to represent messages in
2 the first group is less than a second number of bits used to represent messages in the second
3 group, the first number of bits being at least equal to one.
- 1 5. A method for encoding messages, comprising the steps of:
2 identifying at least a first group of messages having a first plurality of messages and a
3 second group of messages having a second plurality of messages based on a prior transmitted
4 message, where the first and second plurality are unequal; and
5 transmitting a message from one of at least the first and second group of messages,
6 where a message from the first group is transmitted at a different power than a message from the
7 second group.
- 1 6. The method of claim 5, wherein a first number of bits used to represent messages in
2 the first group is different than a second number of bits used to represent messages in the second
3 group, where the first and second number of bits are at least equal to one.
- 1 7. The method of claim 5, wherein a message from the first group has a higher
2 probability of being transmitted than a message from the second group.

1 8. The method of claim 7, wherein a first number of bits used to represent messages in
2 the first group is less than a second number of bits used to represent messages in the second
3 group, the first number of bits being at least equal to one.

1 9. The method of claim 8, wherein a message from the first group is transmitted using
2 less power than a message from the second group.

1 10. A method for encoding messages, comprising the steps of:
2 identifying at least a first group of messages having a first plurality of transmit rate
3 request messages and a second group of messages having a second plurality of transmit rate
4 request messages based on a prior transmitted transmit rate request message, where the first and
5 second plurality are unequal; and
6 transmitting a transmit rate request message from one of at least the first and second
7 group of messages by replacing at least a portion of a pilot signal with a signal representing at
8 least a portion of the transmit rate request message.

1 11. The method of claim 10, wherein a first number of bits used to represent messages in
2 the first group is different than a second number of bits used to represent messages in the second
3 group, where the first and second number of bits are at least equal to one.

1 12. The method of claim 10, wherein a message from the first group has a higher
2 probability of being transmitted than a message from the second group.

1 13. The method of claim 12, wherein a first number of bits used to represent messages in
2 the first group is less than a second number of bits used to represent messages in the second
3 group, the first number of bits being at least equal to one.

1 14. A method for encoding messages, comprising the steps of:
2 identifying at least a first group of messages having a first plurality of transmit rate
3 request messages and a second group of messages having a second plurality of transmit rate
4 request messages based on a prior transmitted transmit rate request message, where the first and
5 second plurality are unequal; and
6 transmitting a transmit rate request message from one of at least the first and second
7 group of messages by replacing at least a portion of a pilot signal with a signal representing at

8 least a portion of the transmit rate request message, where a message from the first group is
9 transmitted at a different power than a message from the second group.

1 15. The method of claim 14, wherein a first number of bits used to represent messages in
2 the first group is different than a second number of bits used to represent messages in the second
3 group, where the first and second number of bits are at least equal to one.

1 16. The method of claim 14, wherein a message from the first group has a higher
2 probability of being transmitted than a message from the second group.

1 17. The method of claim 16, wherein a first number of bits used to represent messages in
2 the first group is less than a second number of bits used to represent messages in the second
3 group, the first number of bits being at least equal to one.

1 18. A method for decoding messages, comprising the steps of:
2 identifying at least a first group of messages having a first plurality of messages and a
3 second group of messages having a second plurality of messages based on a prior received
4 message, where the first and second plurality are unequal;
5 receiving a message; and
6 determining to which of at least the first and second group of messages that the message
7 belongs based on an amount of power received with the message.

1 19. The method of claim 18, wherein a first number of bits used to identify messages in
2 the first group is different than a second number of bits used to identify messages in the second
3 group, where the first and second number of bits are at least equal to one.

1 20. The method of claim 18, wherein a message from the first group has a higher
2 probability of being received than a message from the second group.

1 21. The method of claim 20, wherein a first number of bits used to identify messages in
2 the first group is less than a second number of bits used to identify messages in the second group,
3 the first number of bits being at least equal to one.

1 22. A method for decoding messages, comprising the steps of:

identifying at least a first group of messages having a first plurality of transmit rate request messages and a second group of messages having a second plurality of transmit rate request messages based on a prior received transmit rate request message, where the first and second plurality are unequal;
receiving a transmit rate request message where at least a portion of the transmit rate request message is interleaved with at least a portion of a pilot signal; and
determining to which of at least the first and second group of messages that the transmit rate request message belongs based on an amount of power received with the transmit rate request message.

23. The method of claim 22, wherein a first number of bits used to identify messages in the first group is different than a second number of bits used to identify messages in the second group, where the first and second number of bits are at least equal to one.

24. The method of claim 22, wherein a message from the first group has a higher probability of being received than a message from the second group.

25. The method of claim 24, wherein a first number of bits used to identify messages in the first group is less than a second number of bits used to identify messages in the second group, the first number of bits being at least equal to one.

26. The method of claim 22, wherein the amount of power received with the transmit rate request message is determined relative to an amount of power received with another signal.

27. The method of claim 22, wherein the amount of power received with the transmit rate request message is determined relative to an amount of power received with the pilot signal.

28. A method for encoding messages, comprising the steps of:
identifying at least a first group of messages having a first plurality of messages and a second group of messages having a second plurality of messages based on a current system state, where the first and second plurality are unequal; and
transmitting a message from one of at least the first and second group of messages.

1 29. The method of claim 28, wherein a first number of bits used to represent messages in
2 the first group is different than a second number of bits used to represent messages in the second
3 group, where the first and second number of bits are at least equal to one.

1 30. The method of claim 28, wherein a message from the first group has a higher
2 probability of being transmitted than a message from the second group.

1 31. The method of claim 30, wherein a first number of bits used to represent messages in
2 the first group is less than a second number of bits used to represent messages in the second
3 group, the first number of bits being at least equal to one.

1 32. A method for encoding messages, comprising the steps of:
2 identifying at least a first group of messages having a first plurality of messages and a
3 second group of messages having a second plurality of messages based on a current system state,
4 where the first and second plurality are unequal; and
5 transmitting a message from one of at least the first and second group of messages,
6 where a message from the first group is transmitted at a different power than a message from the
7 second group.

1 33. The method of claim 32, wherein a first number of bits used to represent messages in
2 the first group is different than a second number of bits used to represent messages in the second
3 group, where the first and second number of bits are at least equal to one.

1 34. The method of claim 33, wherein a message from the first group has a higher
2 probability of being transmitted than a message from the second group.

1 35. The method of claim 34, wherein a first number of bits used to represent messages in
2 the first group is less than a second number of bits used to represent messages in the second
3 group, the first number of bits being at least equal to one.

1 36. The method of claim 35, wherein a message from the first group is transmitted using
2 less power than a message from the second group.

1 37. A method for encoding messages, comprising the steps of:

2 identifying at least a first group of messages having a first plurality of transmit rate
3 request messages and a second group of messages having a second plurality of transmit rate
4 request messages based on a current system state, where the first and second plurality are
5 unequal; and
6 transmitting a transmit rate request message from one of at least the first and second
7 group of messages by replacing at least a portion of a pilot signal with a signal representing at
8 least a portion of the transmit rate request message.

1 38. A method for encoding messages, comprising the steps of:

2 identifying at least a first group of messages having a first plurality of transmit rate
3 request messages and a second group of messages having a second plurality of transmit rate
4 request messages based on a current system state, where the first and second plurality are
5 unequal; and
6 transmitting a transmit rate request message from one of at least the first and second
7 group of messages by replacing at least a portion of a pilot signal with a signal representing at
8 least a portion of the transmit rate request message, where a message from the first group is
9 transmitted at a different power than a message from the second group.

1 39. A method for decoding messages, comprising the steps of:

2 identifying at least a first group of messages having a first plurality of messages and a
3 second group of messages having a second plurality of messages based on a current system state,
4 where the first and second plurality are unequal;
5 receiving a message; and
6 determining to which of at least the first and second group of messages that the message
7 belongs based on an amount of power received with the message.

1 40. The method of claim 39, wherein a first number of bits used to identify messages in
2 the first group is different than a second number of bits used to identify messages in the second
3 group, where the first and second number of bits are at least equal to one.

1 41. The method of claim 39, wherein a message from the first group has a higher
2 probability of being received than a message from the second group.

1 42. The method of claim 41, wherein a first number of bits used to identify messages in
2 the first group is less than a second number of bits used to identify messages in the second group,
3 the first number of bits being at least equal to one.

1 43. A method for decoding messages, comprising the steps of:
2 identifying at least a first group of messages having a first plurality of transmit rate
3 request messages and a second group of messages having a second plurality of transmit rate
4 request messages based on a current system state, where the first and second plurality are
5 unequal;
6 receiving a transmit rate request message where at least a portion of the transmit rate
7 request message is interleaved with at least a portion of a pilot signal; and
8 determining to which of at least the first and second group of messages that the transmit
9 rate request message belongs based on an amount of power received with the transmit rate
10 request message.

1 44. The method of claim 43, wherein a first number of bits used to identify messages in
2 the first group is different than a second number of bits used to identify messages in the second
3 group, where the first and second number of bits are at least equal to one.

1 45. The method of claim 43, wherein a message from the first group has a higher
2 probability of being received than a message from the second group.

1 46. The method of claim 45, wherein a first number of bits used to identify messages in
2 the first group is less than a second number of bits used to identify messages in the second group,
3 the first number of bits being at least equal to one.

1 47. The method of claim 43, wherein the amount of power received with the transmit rate
2 request message is determined relative to an amount of power received with another signal.

1 48. The method of claim 43, wherein the amount of power received with the transmit rate
2 request message is determined relative to an amount of power received with the pilot signal.